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Stellingen behorende bij het proefschrift

Thermal-aware job scheduling in data centers

An optimization approach

door Tobias Van Damme

1. A static mapping for recirculation flows is a good choice in order to capture thermal leakages and construct a thermodynamical model of a data center. (Chapter 2)
2. Integral controllers are sufficient for implementing thermal-aware job schedulers in current-day air cooled data centers. (Chapter 3)
3. Combining projected dynamical systems with integral controllers for thermal-aware job scheduling allows for maximizing the computing potential while safely operating data centers. (Chapter 4)
4. When a PhD student has the choice between going home at the end of the day, or working a few hours extra, the more productive choice is almost always to go home.
5. Combining multiple energy reduction techniques into a multi-purpose controller yields the best results. (Chapter 5)
6. By running easy-to-design experiments and using subspace identification algorithms, it is possible to reconstruct the thermodynamical structure of any data center. (Chapter 6)
7. Theoretical analyses are necessary in a predominantly heuristic based field in order to get a better understanding of the characteristics of good solutions.
8. Having lunch or eating pie is a vital part in sowing seeds of collaboration among colleagues.